

ART 34 AMENDT

We claim:

1. Material formed from SAP and fibers that is obtainable by in situ polymerization of the SAP and by pressing at not less than 60°C and not less than 3 bar.
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2. Materials as claimed in claim 1 that are obtainable by pressing at not less than 70°C.
3. Materials as claimed in claim 1 that are obtainable by pressing at not less than 80°C.
- 10 4. Materials as claimed in any of claims 1 to 3 that are obtainable by pressing at not less than 5 bar.
5. Materials as claimed in any of claims 1 to 3 that are obtainable by pressing at not less than 10 bar.
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6. Material as claimed in any of claims 1 to 5 that expands not less than 5-fold in one dimension and by less than 20% in the other two dimensions on addition of water.
7. Material formed from SAP and fibers that expands not less than 5-fold in one dimension and by less than 20% in the other two dimensions on addition of water.
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8. Material as claimed in any of claims 1 to 7 that expands not less than 10-fold in one dimension and by less than 10% in the other two dimensions on addition of water.
- 25 9. Material as claimed in any of claims 1 to 8 that has a density in the range from not less than 0.5 g/ccm to 1.2 g/ccm.
10. Material as claimed in any of claims 1 to 9 where the ratio of teabag to retention in 0.9% NaCl solution is greater than 2.
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11. Material as claimed in any of claims 1 to 10 where the retention in 0.9% NaCl solution is greater than 3 g/ccm.
12. Material as claimed in any of claims 1 to 11 where the increase in thickness 60 days after compression is less than 100% based on the thickness directly after compression.
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13. Material as claimed in any of claims 1 to 12 where the FSEV after 60 seconds is at least double that of the uncompressed material.

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ART 34 AMDE

14. Material as claimed in any of claims 1 to 13 where the FSEV after 2 minutes is at least 60% higher than that of the uncompressed material.
15. Material as claimed in any of claims 1 to 14 where the EVUL after 60 seconds is at least 5 double that of the uncompressed material.
16. Material as claimed in any of claims 1 to 15 where the EVUL after 2 minutes is at least 60% higher than that of the uncompressed material.
- 10 17. Material as claimed in any of claims 1 to 16 where the AAP (0.7 psi) in 0.9% NaCl solution is greater than 5 g/ccm.
18. Laminates comprising material as claimed in any of claims 1 to 17.
- 15 19. The use of material and laminate material as claimed in any of claims 1 to 18 to absorb water vapor.
20. The use of material and laminate material as claimed in any of claims 1 to 18 to absorb water or aqueous fluid, especially body fluid.
- 20 21. The process for producing compressed material comprising SAP, obtainable by in situ polymerization of the SAP, and fiber by pressing at above 60°C and above 3 bar.

Ultrathin materials formed from fiber and superabsorbent

Abstract

- 5 The present invention relates to materials formed from superabsorbent polymer (SAP) and fibers that are obtainable by pressing at not less than 60°C and not less than 3 bar. More particularly, the present invention relates to materials which are obtained by in situ polymerization of SAP precursor mixtures on the fiber. The present invention also relates to processes for producing such materials and to their use.